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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/755,024

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Tapesh Yadav

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT

PAPER NUMBER

1742

MAIL DATE

DELIVERY MODE

05/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/755,024

Applicant(s)

YADAV, TAPESH

Examiner

George P. Wyszomierski

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2/27/07 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

1. The Request for Continued Examination (RCE) and fee filed February 27, 2007 is considered proper and has been entered. The Amendment filed January 29, 2007 has been entered. The pending claims are claims 1-15 and 19.

#### Claim Interpretation

2. It is noted that instant claims 3 and 11-15 state that the products of the claimed process "comprise" certain materials or classes of materials. This language encompasses processes that result in the given materials being present in any quantity, including insignificant quantities such as impurities.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moser (U.S. Patent 5,417,956).

Moser discloses making nanoscale particles (specifically, oxides and mixtures of oxides) by a method which includes forcing a mixture of precursor solutions and precipitating agents(s) through a reactor under high pressure such that the precursors react with the precipitating agents, i.e. a lower valence material is precipitated in the form of nanoscale particles. The solutions can be recirculated and remixed as needed. The prior art process further includes an additional high temperature calcining step, and can be used to make various oxides and

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mixtures, i.e. products comprising metal and non-metal (oxygen); note particularly Table I of Moser. With respect to claims 3, 12 and 13, many of the precursors and precipitating agents used in the Moser process contain hydroxide, nitrogen and/or carbon (see Moser column 4, line 44 to column 5, line 9), and the examiner's position is that at least a residual amount of nitrogen or carbon would remain in the final product of the prior art process, at least enough to form powders which "comprise" these elements in accord with the instant claims. The precursors may be organometallic as recited in claim 6, and may comprise one or more of the elements recited in claim 19.

The prior art does not disclose the product value ranges as recited in instant claims 1, 4 and 5. This is not seen as resulting in a patentable distinction between the prior art and the claimed invention because one important aspect of the Moser process involves varying the pressure applied to the materials in the prior art reactor; note particularly example 3 of Moser. It would have been a trivial matter for one of ordinary skill in the art to select a pressure which results in a product value within the ranges as presently claimed.

Consequently, a prima facie case of obviousness is established between the disclosure of Moser and the presently claimed invention.

5. Applicant has amended the independent claim to require calcining "in an environment rich in air, oxygen, hydrogen, nitrogen, and/or carbon" and that the nanoscale powders are "chosen from oxides, metals, carbides and nitrides." With respect to the first point, it is unclear precisely how "rich" an environment would be required to meet the limitations of the instant claims. Nonetheless, while Moser does not provide details of the calcining environment in the prior art, it is a reasonable assumption that this environment would include air (in the absence of any specific

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teaching of exclusion of air). Further, air would contain significant amounts of oxygen and nitrogen. With respect to the second point, clearly the Moser patent teaches making of nanoscale oxide powders.

6. The prior art cited on the attached PTO-892 form is of interest. With regard to Sabacky et al., (U.S. patent 6,982,073), it is noted that the present application claims priority to provisional application 60/267653, which was filed prior to the filing date of the Sabacky patent.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300. This Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1700

GPW  
May 1, 2007